Case Report

# A rare encounter of obstructed direct inguinal hernia

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## Abstract

The direct inguinal hernia has a wider neck and thus usually doesn't present as strangulation or incarceration in comparison to the indirect component. When direct inguinal hernias are untreated for a longer duration, they may get strangulated and incarcerated. Hence such long-standing direct hernias with features of intestinal obstruction and /or peritonism should be promptly seen and diagnosed to prevent massive and unwanted intestinal resection. We are reporting a case of 83-year-old male presented to Surgical Emergency Department of Dhulikhel Hospital, Kathmandu University hospital with complaints of swelling in the right inguinoscrotal region for 12 years and progressed to become irreducible and painful for 12 hours. Clinically he had an acute intestinal obstruction. Intra-operatively we found a direct hernia containing congested small bowel loops and toxic fluids. The toxic fluid was suctioned and after confirming viability, modified Bassini's repair was done with reinforcement of the posterior wall.

Even direct inguinal hernia of longer duration can cause acute or sub-acute intestinal obstruction with or without features of peritonism. This complication is more common in elderly patients.

**Keywords:** Direct Hernia; Obstructed Direct Inguinal Hernia; Rare Case

## Introduction

The overall prevalence of hernias in the average is 1.7% and as high as 4% for ages more than 45 years; making it a common surgical problem. Among abdominal wall hernias, inguinal hernias account for around 75%. As high as 27% males and 3% of females can develop inguinal hernias in their lifetime.[1] Groin hernias commonly present as an inguinal hernia in 95% people.[2] Among all inguinal hernias, nearly 66% are indirect and the rest are direct type. Regardless of the gender indirect hernias are the commonest.[3] When untreated surgically, complications of hernias are more likely in long duration and extremes of ages.[4] A direct inguinal hernia comes from Hesselbach's triangle which is bounded laterally by inferior epigastric vessels, medially by the lateral border of rectus abdominis and inferiorly by inguinal ligament.

## Case Report

Eighty-three years gentleman presented to surgical emergency with complaints of on and off swelling over the right inguinal region for 12 years. The swelling was spontaneously reducible over the past years but became irreducible and painful for 12 hours. After the start of pain, the patient developed abdominal distension and was unable to pass stool and flatus. On examination, the patient was anxious and mildly dehydrated. Local examination revealed an irreducible and tender swelling in the Hasselbach's triangle with features of peritonism. External genitalia was normal and the contralateral inguinoscrotal region was normal. Per rectal and other systemic examination was normal.

The standard roentgenogram of the abdomen showed features of intestinal obstruction and ultrasonography of the abdomen and groin was done which revealed right-sided obstructed inguinal hernia. On the basis of clinical and radiological findings, a provisional diagnosis of right-sided obstructed inguinal hernia was made. After taking written and verbal consent from the patient and patient party, emergency exploration was planned.

Intra-operatively, we found 200 ml of toxic fluid which was

aspirated. Cyanosed and congested small bowel loop was found as content. Hot mopping and high flow oxygen were given and bowel color was returned to normal in 5 minutes. Hence content was reduced to the abdomen. To our greatest surprise, we could see the hernia sac was present medial to the cord structures, looking at which we could make out it is the direct inguinal hernia in obstruction. We proceeded with modified Bassini's repair with posterior wall reinforcement. The patient was started on a normal diet on 3rd POD and discharged on 5th POD without any complications.

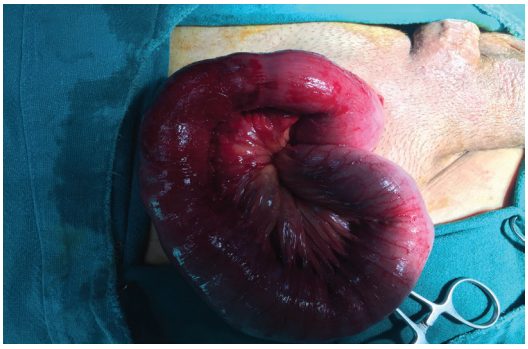

**Figure 1: Showing congested small bowel loop as a content of the hernia sac.**

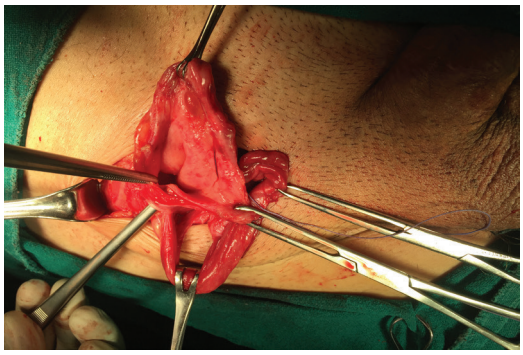

**Figure 2: Thickened direct hernia sac present medial to the cord structure.**

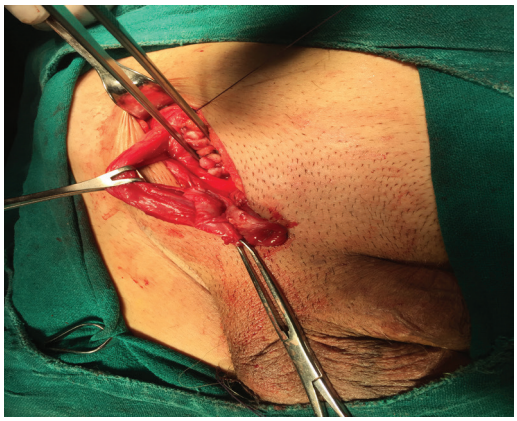

**Figure 3: Closure of the posterior wall defect and Modified Bassini's repair with interrupted polypropylene.**

On follow-up, the patient was absolutely asymptomatic with healed scar marks and passing stool and flatus normally.

## Discussion

Groin hernias are commonly classified as inguinal (indirect and direct) and femoral. Indirect hernias are those which protrude through the deep inguinal ring lateral to the inferior epigastric vessels up to the scrotum. Direct hernias have weakness in the Hesselbach's triangle and the protrusion is medial to the inferior epigastric vessels. Hesselbach's triangle which is bounded laterally by inferior epigastric vessels, medially by the lateral border of rectus abdominis and inferiorly by inguinal ligament. The hernia comprises of covering sac and contents. On the basis of origin, content, sites and clinical presentation there exist further classification of hernias.[5]

An obstructed hernia is defined as the non-reducibility of the content of the hernia back to the abdominal cavity with features of luminal obstruction. Delay in the release of the obstruction in hernia may result in strangulation of bowel because the blood supply of the contents of hernia gets seriously compromised. About 18-20% of intestinal obstruction in the adult is caused by complicated abdominal wall hernias. Narrow neck, adhesion of the content and narrow external ring in children make an indirect hernia more favorable for strangulation than a direct one. The most common constricting area is the neck of the sac followed by a narrow external ring in the children and adhesion within the sac (rarely). Strangulation more commonly occurs in the small bowel but large bowel and omentum can also strangulate occasionally. Strangulation and obstruction becomes a rare complication of direct inguinal hernia as direct hernia generally doesn't attain large size or descend into the scrotum and also has a wider neck of the sac.[6]

In the study done by Álvarez JA et al. they found indirect hernia more prone to strangulation leading resection (32.1% Vs 11.8%) in comparison to direct counterpart.[7] This is because the neck of a direct inguinal hernia sac is too wide to cause strangulation. However, it may become narrowed due to long-standing hernia causing fibrosis leading to obstruction and strangulation as in indirect inguinal hernia.[6]

## Conclusion

Direct inguinal hernia of longer duration may present with obstruction causing acute or sub-acute intestinal obstruction.

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